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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,081	03/12/2004	Saburou Abe	3216/1	8512

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EXAMINER

HARDEE, JOHN R

ART UNIT PAPER NUMBER

1751

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/799,081	<b>Applicant(s)</b> ABE ET AL.	
	<b>Examiner</b> John R. Hardee	<b>Art Unit</b> 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-41 is/are pending in the application.
- 4a) Of the above claim(s) 31-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 31-41 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The original claims are related to the new claims as a subcombination and a combination, respectively. The combination does not require the particulars of the subcombination for patentability, as it is not patentable (see references cited below). The subcombination has separate utility as a coolant.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 31-41 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wulff et al., US 2004/0253490 A1 in view of Eaton et al., US 6,818,146. Wulff discloses deionized water coolants for fuel stacks which may further comprise ethylene glycol [0006]. Conductivities of less than 1 microS/cm can be obtained using the system [0039]. Addition of anticorrosion agents is disclosed at [0033]. Use of dyes and

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antifoaming additives is not disclosed. Eaton discloses cooling media for fuel cells (col. 1, lines 10+). The coolant comprises propylene diol and water. The addition of antifoaming compositions is disclosed at col. 3, along with a teaching that these are well known. The examiner takes the position that since these compositions are being compared with ethylene glycol/water compositions, that use of same in glycol/water compositions would be well known as well. In addition, dyes may be added (see claims). It would have been obvious to add antifoamers for the reasons given above, and to add dyes to obtain the advantages obtained by Eaton in the use of same. It would be further obvious to use a nonionic dye, because Wulff discloses a composition which undergoes continuous deionization, which would otherwise remove all dye from the compositions. Regarding the specifically recited dyes, the examiner takes the position that these are well known, being commercially available and having trivial names, so use of any particular dye would be obvious in the absence of the disclosure of any unexpected properties.

4. Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al., US 2006/0049167A1. The reference discloses coolant compositions and methods for maintaining the conductivity of same at less than 200 microS/cm (abstract). Note that the exemplified compositions have much lower conductivities. The compositions may comprise alcohols at 10-99.9% of the compositions, including ethylene glycol [0130]. Suitable colorants and methods for selecting same are disclosed at [0122]-[0129]. In the absence of evidence to the contrary, the examiner takes the position that the trade names at [0127] read on the dyes recited by applicant.

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Alternatively, determination of whether or not a dye is suitable amounts to ordinary experimentation and would be obvious in view of the disclosure in the reference. The dye is present at 0.0005-0.1% by weight [0129]. Use of ion exchangers to maintain low conductivity, making the limitation of claim 22 obvious. The compositions may be used for fuel cells [0041]. The compositions further comprise water [0043]. This reference differs from the claimed subject matter in that it does not disclose a composition which reads on applicant's claims with sufficient specificity to constitute anticipation.

It would have been obvious at the time the invention was made to make such a composition, because this reference teaches that all of the ingredients recited by applicants are suitable for inclusion in a coolant composition. The person of ordinary skill in the coolant art would expect the recited compositions to have properties similar to those compositions which are exemplified, absent a showing to the contrary.

In the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art, a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed Cir. 1990).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Dr. John R. Hardee, whose telephone number is (571) 272-1318. The examiner can normally be reached on Monday through Friday from 8:00 until 4:30. In the event that the examiner is not available, his supervisor, Mr. Douglas McGinty, may be reached at (571) 272-1029.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "J. Hardee", with a stylized, cursive script.

John R. Hardee  
Primary Examiner  
October 30, 2006